



Sowing Oats with Peas.

Some farmers who broadcast cow peas this season sowed oats with the peas. As the cow pea is really a bean and supports are not required, the oats are injurious, as the cow pea will thrive much better when given the land alone. If oats are wanted they should always be seeded in another field.

A Good Crop for Seed.

The ordinary string bean, the pods of which are eaten, is a good crop to grow for seed, provided the seed is ground and used for stock. It produces but little vine, but the seed can be broadcasted and when the beans are dry the vines should be pulled up and thrown on the barn floor to be beaten out, which work may be postponed until winter if preferred.

The Wealth in a Farm.

The farm that produces but half a crop is much less valuable than a fertile farm, and if a poor farmer is increased in fertility the farmer has stored in his soil a greater amount of plant food from which to secure crops. Riches need not be in the form of money, buildings or live stock. The increased value of the land is in addition to the farmer's wealth.

Skimmilk as an Insect Destroyer.

It may not be generally known that skimmilk or buttermilk readily mix with kerosene, forming an emulsion which destroys insects without the danger of injury to animals or plants on which they might be that might result from the use of the pure oil or of oil and water. We first learned of this from using this mixture for the scale insect or mite which causes scaly legs on fowl. We found that one or two dippings or washings with it would cure the worst case of scaly leg, and leave the skin as smooth as when first hatched. We never had occasion to try it for lousy animals, for we never had one, but we do not hesitate to recommend it, and we have lately seen its use advised for ticks on sheep, using a gill of kerosene to one gallon of milk. We do not make our mixture as strong of kerosene as that, but perhaps the larger tick may need a stronger application than an insect so small as to be scarcely visible to the naked eye. —The Cultivator.

Bee Hints.

It is an old, old fashion to use smoke with bees; but Mr. Robert Davis gives his explanation of it: "Bees when frightened by smoke will immediately gorge themselves with honey and lose all inclination to sting."

Here follow some practical hints to beekeepers which are given by Mr. Davis in the New York Journal:

The most vicious colony of hybrids may be controlled by using a little tobacco in the smoker.

The prosperity of a colony depends upon the fertility of the queen. If weak colonies have not become populous in some season, kill the queen and give them another.

Toads, skunks and mice are great enemies to bees; see that they do not have access to the apiary.

Increasing or dividing should be done as early as possible, but not until stores are coming abundantly.

Drones are just as essential as any other bees, but too many are a nuisance. This may be controlled by cutting out drone-comb and substituting worker-comb or foundation.

Drones may be prohibited in objectionable colonies by dividing early in the spring.

Keep all colonies strong.

Fattening Stock Economically.

Not every farmer can fatten an animal economically. The ability to do this must be acquired by study and practice. There are many branches to this subject and their numerous conditions must be thoroughly understood if the farmer would realize the most from his feds. He must consider the quality of food, warmth and quietness of stables and many other important items. As in many other departments of farm labor, there is a great lacking here in sympathetic work. Some are ignorant as to the best methods, while others are careless of their real interests and have no regularity in their work. Every farmer seems to have his own way, and it is too often chosen with regard to the convenience of the feeding rather than the economy.

Ten chances to one he never knows whether he has gained or lost on the animal he has sold to the butcher. We cannot lay down any definite rules to be followed in fattening stock, and it would be still more difficult to follow them up to the letter if they were given. But we can learn the general principles of economical feeding and should never rest until we put them into practice. A man of good sense and judgment can apply them to his particular circumstances. I might, for instance, say that the most economical method of feeding rough food is by the process of steaming which would be very true, while at the same time I would not advise all farmers to go to the expense of purchasing an apparatus for this work. To those who have a large number of animals and proper facilities it would be good economy, but to small stock raisers or fatteners it would be too expensive. Throwing aside the discussion of par-

ticular methods, I would call the attention of farmers to some few things that can be applied alike to all.

Fatten stock in the stall. Turn them out for exercise, but never feed in the yard. The animal that is obliged to fight for its food among the herd will not get its fill. There is also an enormous waste of food when given in this manner. Give them their food in such a condition that they can get its full nutritive value. Give the animal warm, well ventilated stables. The idea that an animal should be confined in a dark stall or inclosed without the light of the sun reaching it is absolutely wrong. Feed and water regularly. Feed a well-balanced ration. The use of card and brush is an essential. A good breed of stock is the best rule of all.—G. A. Harlachner, in American Agriculturist.

Milk in Summer Weather.

With reference to the handling of milk in very hot weather, especially at a skimming station, we find the following by a station operator, published in the Nebraska Farmer. Of course it will be seen that most of the suggestions are commonplace. Those who have been handling milk all their lives may even smile at their simplicity. But there are always beginners in this business as in all others and always those who need line upon line and precept upon precept. We quote:

The dairy stock should be in perfect condition of health. All milk utensils should be of tin—not galvanized iron as that material is almost uncleanable, its rough surface defying all scrubbing which may be done on it.

Use only warm water, and use soda rather than soap in washing milk vessels. After washing, scald with water that is boiling, or with live steam. The reason for using water no hotter than can be borne by the hand is that a higher temperature than this cooks and hardens upon the tin surface the albuminous portion of the milk, instead of softening and dissolving it.

Have all joints and seams in milk vessels smoothly soldered or they will collect filth, and sooner or later cause trouble.

Do all milking in a cleanly, thorough manner. Strain through a perfectly clean cloth strainer, and cool immediately. Never mix two different milkings without both being first thoroughly cooled. Fermentation takes place with the greatest rapidity at the temperature of new milk, and decreases as the temperature is lowered. Hence the necessity of cooling, and to as low a degree as possible to keep the milk sweet.

All milk cans used for delivering milk to and from the station should be emptied, and washed and scalded as directed above immediately on returning home. These should be aired on a rack or in an inverted position, and should be kept in the open air until ready to be sent to the station again.

Skimming station operators are instructed to accept no tainted milk, whether caused by fermentation, improper feeding or the condition of the cows.

The better the condition in which milk is delivered to the station the more accurate is the sample taken, the more thorough the separation, and the more satisfactory the test to the patron.

In warm weather, if milk is not properly cooled it undergoes a certain amount of churning in delivery to the creamery, and the patron loses the butter fat churned in transit. Hence he suffers for his neglect in caring for the milk.

Where milk is handled according to the above instructions the skimmilk returned proves satisfactory in feeding young stock. When the skimmilk is shown to be unsatisfactory through any failure of the station operator, a complaint to the proper authorities will have him removed and an efficient person put in his place.

Farm and Garden Notes.

When building a pig pen plan it so that it can be cleaned easily.

Poor offerings will lower prices quicker than over-production.

Hay of all kinds should be cut early, and by all means well cured.

It is said that the demand for Angora goats is beyond the supply.

Always remember that there are beneficial as well as harmful insects.

Nothing will spoil the flavor of butter quicker than mouldy cornstalks or hay.

In-breeding should never be allowed no matter what kind of stock you are using.

In planting an apple orchard select a high location as far from the bottom lands as possible.

Profits depend more upon the cost of raising the crop than the market prices received from them.

A little timothy may be sown with clover, but not enough to cause the clover being crowded out.

Those who made it a point to have good seed beds are the ones whose crops now look the best.

When peas and oats are sown for a sheep pasturage about three bushels of the mixture should be sown to the acre.

Every farmer should plant a patch of butter beans. If he has ever had them served on his table he can readily see the wisdom of this.

There is a tendency for plant food to reach downwards with the rain water, but clover can and will bring it up again ready to be used by the crops.

SCIENCE AND INDUSTRY.

A well known railroad man says there is no limit to the size of locomotives, and that before long we will be using rails that will weigh 200 pounds to the yard, and locomotives twice the size of the heaviest now in use.

It is estimated that the earth receives not more than one thousand-millionth part of the total radiation of the sun's rays. If any considerable portion of this heat was concentrated upon the earth it would not only become uninhabitable, but become speedily consumed.

One of the few industries at present carried on in the island of Corsica is the extraction of tannic acid from chestnut wood. The seat of this business is at Bastia, the commercial center of Corsica, and there are two factories which export annually about 4000 tons of extract in a concentrated form. To prepare this amount requires nearly 20,000 tons of the wood of the sweet chestnut tree, which grows in large forests.

The protection of beaches along the New England coast is being successfully accomplished by the "groynes system." These "groynes" consist of a series of posts planted firmly in the sand, with close planks extending from post to post. The "groyne" is constructed at right angles to the beach, and its position prevents the waves acting on it injuriously. Sand is intercepted by the planking, rapidly forming a new beach and preventing erosion.

Live plants are plants with their particles in motion building up the plant's structure. This motion is known as vital energy. Physical energy results in decomposition. The material out of which plant structure is formed is known as protoplasm. The forms of flowers result from varying degrees and directions of vital energy, but what starts the motion in protoplasm, and so directs the energy that a little cell may develop in one instance to an oak, or in another to a buttercup has not often been demonstrated.

Owners of automobile vehicles using petroleum will doubtless be interested in the regulation recently framed by the home secretary of Great Britain for the keeping, conveyance, and use of such fuels. These rules provide that petroleum spirit shall be kept only in metal vessels of substantial construction, and that the amount of liquid in any storehouse shall not exceed 60 gallons. It must be kept in a storehouse or building apart from a dwelling-house, and the filling of any vessel with petroleum spirit cannot be done in the presence of any fire or light capable of igniting the vapor arising from it.

The hot damp atmosphere of the country about Durban, South Africa, is very injurious to ironwork, and fears are expressed for the condition of machinery destined for the mines, which has accumulated at this port on account of the war. The life of the rails on the Durban section of the Natal railway is only one-sixth that of the rails of the mountain sections, while the steelwork of the bridges requires constant attention. In fact, more men are employed scraping and painting on the North Coast railway than on all the rest of the section, as no paint has yet been found that resists the corroding action of the atmosphere. The paint used is said to remain intact, but the surface of the metal peels off. In the Transvaal, however, the reverse condition exists, and metal can be exposed with but slight danger in the dry and clear climate.

Cotton Duck and Its Uses.

"America leads the world in the production of fine cotton duck," said a large wholesale dealer in the material in New York City recently. "There are now in the United States some 25 mills engaged in the manufacture of the goods. These concerns have a capital of \$20,000,000, and employ about 12,000 persons, who turn out a finished product valued at \$35,000,000 annually. Most of the big mills are located in Delaware, Georgia, Alabama, Connecticut and Maryland.

"The best grades of duck are made from South Sea Island cotton. It is used for sails, tents, awnings, tarpaulins, covers for tents; skirting suits, shoe linings and a hundred other branches of industry. Not the least odd as it may seem, it enters into the farm. The big reaper companies of the west present to every purchaser of a machine a suit of duck, with hat and gloves.

"American cotton duck is exported quite largely to Mexico and Central American states and the West Indies. It is also shipped to Germany, France and England in which countries the superior qualities of the goods, for making sails, tents and awnings, is freely acknowledged."—Washington Star.

An Elephant's Impossible Feat.

"Uncle," said one of the children, "what is the difference between a cat and an elephant?" "I know what is in your mind, child," replied the professor, "yet the old answer to the effect that the elephant can't climb a tree, is not altogether correct. An elephant may not be able to climb the branches but he can get as high as the trunk."—Chicago Tribune.

Pests Which Follow the White Man.

If a white man tents for a couple of days in the newest of new lands he beholds the house-fly in on hand. If he builds a house the cheery sparrow is speedily to be seen quarreling with the poultry for their grain. A little longer, and the big brown rat appears as if by magic, and makes short work of the weaker and smaller native. Our common British mouse has also spread over America and Australia.

Insects other than flies also follow man, especially those which can exist in egg or cocoon for a long time. The insect known as the black beetle, which is, however, neither black nor a beetle, makes a splendid colonist. In the West Indies his descendants grow fat and flourish. That little pest, the clothes moth, is now to be found almost everywhere where woolen clothes are carried. White ants, taken accidentally on board in cargo at Gold Coast African ports, have invaded France and done incalculable damage at Bordeaux.—Answers.

Ibis in the London Zoo.

No fewer than nine ibises—six of the glossy varieties and three white—have just been hatched in one of the principal aviaries at the Zoo. The first named are, perhaps, the most interesting, deriving their name from the beautiful metallic bronze and purple gloss which makes its appearance in the adult bird. One of its most famous breeding grounds in Europe is near to Belgrade, but it is also found in Poland, Turkey, the Grecian Archipelago, and more rarely in England. These two varieties were the most highly venerated by the Egyptians of old, who used to rear them in their temples, and embalm their bodies after death. There is also the scarlet ibis, found in the most tropical parts of America, and other species dwell in India, Madagascar, the Cape of Good Hope and elsewhere.—London News.

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Ginseng the World Over.

The American ginseng is the ordinary article of commerce. The quality of the Korean, however, is superior, and its price often runs as high as \$18 a pound. The Japanese, on the other hand, is not worth more than twenty-five cents a pound, while the Chinese fetches about \$12.

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